# Insurance (C&V) survey of C&C 44

'Boat name'



# **Discovery Marine Surveys®**

April xx, 2012 discoverymarinesurveys.com 604 318-1402 Vancouver, B.C. Canada

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## **C&V Marine Survey Report**

Report Number

2012/xx

Date of Inspection

April xx, 2012

Commissioned by

Mr. xxxxxxx.

#### Address

xxxxxxxxx Richmond, B.C.

e-mail

xxx@mail.com

Telephone

Xxx xxx xxxx

## **General description**

Vessel condition

The vessel is in: Above average condition.

## **General information**

#### Vessel

Name of Vessel:XxxxxModel year:1986Date of mfg.:n/a

## Transport Canada registry data

Registration Number: xxxxx.Exp. Date:April 2014.

#### HIN/MIC

XXXXXXXXXXXX Survey must be signed and seal applied to be valid.







## Survey site

Vessel inspected at:	XXXXXX Marine in XXXXXXX B.C.
Vessel observed:	Out of water, on stands.
Weather was:	Mild and sunny.
Survey started at:	Арр. 09Н30.
Survey ended at:	App. 13h00.
The client attended:	At the beginning of the survey.
Note:	n/a

### Published specifications

Weights and dimensions are taken from common publications. If any are in question, actual Measurements should be taken by the concerned party.

Hull Type:	Fin w/spade rudder	Rig Type: N	Masthead Cutter
L.O.A. :	44.17' / 13.46m	LWL:	35.25' / 10.74m
Beam:	13.25' / 4.04m	Rig type:	Masthead Sloop
Draught (max.):	8.25' / 2.51m	Draught (min.):	n/a
Ballast:	9850 lb. / 4468 kg.	Displacement:	20906 lb./ 9483 kg.
SA/disp.	19.58	Listed SA:	925 ft <sup>2</sup> / 85.93 m <sup>2</sup>
Bal./Disp.	47.12%	Disp./len.:	213.0

## **Rig dimentions**

I:	59.00' / 17.98m	J:	17.50' / 5.33m
P:	51.80' / 15.79m	E:	15.80' / 4.82m
PY:	n/a	EY:	n/a
SPL:	n/a	ISP:	n/a
SA(Fore.):	516.25 ft2 / 47.96 m2	SA(Main):	409.22 ft2 / 38.02 m2
Total SA:	925.47 ft2 / 85.98 m2	DL ratio:	213.08
SA/disp.	19.59	Est. Forestay:	61.54' / 18.76m

## Scope of survey

The purpose of this inspection and survey report, requested by and created for Mr. Xxx xxxx, is to determine insofar as possible within the limitations of visual and physical accessibility, through non-invasive and non-destructive means, the vessel's condition at time of survey by reporting deficiencies against the standards quoted in the "comments" section of this report and to present the surveyor's personal opinion as to the vessel's condition. This type of survey is also known as 'insurance survey' or C&V (condition and valuation). Certain parts of the structure, systems and equipment are inaccessible without removing decks, tanks, bulkheads and headliners etc. or in the case of cored structure, drilling core samples. This is not within the scope of this survey. Coatings build up, corrosion, marine growth, excessive gear on board or dirt may have hampered the surveyor's ability to inspect. Thick layers of anti-fouling paint may inhibit bottom inspection and therefore destructive testing is offered at additional cost.

Be advised that moisture meter readings and percussive soundings on frozen structure are not reliable and that if a survey must be conducted under these conditions the soundings and meter readings should be re-done at thaw. It should be noted that moisture meter readings are relative and these meters are affected by many factors other than moisture and that percussive sounding interpretations are subjective.

Components requiring access with tools or by disassembly are not inspected. A vessel's systems and component parts have a limited useful life and are subject to deterioration over time. Some conditions affecting useful life include original material specifications, fabrication techniques, environmental exposure and history of use. These systems and component parts often give no readily detectable external indication of deterioration or failure. Cosmetic or comfort issues may be addressed where there is a significant effect on the value of the vessel. Electronic and electrical equipment may be tested by powering up, only when power is already connected. A complete analysis of the vessels electrical systems would require the services of a qualified marine electrician. Only the external visual condition of wiring, connections and panels is reported. The surveyor recommends that a qualified marine mechanic inspect all engines, generators, V-drives, transmissions, sail-drives and or stern drives regularly. Loose gear and accessories are neither inventoried nor inspected. This survey is an opinion of the surveyor based on his knowledge, experience and following the ABYC standards, NFDA standards and the SAMS code of ethic. Within these parameters the surveyor will report on the hull, deck, vessel systems, running gear, cosmetic condition and provide a valuation based on the foregoing. The surveyor cannot predict how the vessel or its systems will perform over time and therefore this report is valid only at time of survey. The surveyor has made neither weight calculations nor measurements. All dimensions and weights are from published specifications such as original brochures, the PowerBoat Guide, Mauch's Sailboat Guides, manufacturers or owners association web sites. Survey fees are based on such published L.O.A.

## **Structural components**

Note. Some maintenance was being performed at the time of the inspection some of the comments in this survey might be addressed when the maintenance is completed.

The internal and external structural elements were visually inspected and tested by random percussive sounding where accessible.

## General

Hull is fabricated from fibre reinforced resin taken from a female mold. The hull and deck are reported to be FRP cored sandwich construction. The hull and deck shell are supported by integral frames and floors. Main bulkheads are inset in the liner.

## Structural changes

The vessel was converted from a sloop rig to a cutter rig. The additional stay is attached at a point on deck and structural reinforcement was sighted from the v-birth. Attachment on the mast was sighted but not inspected.

## Deck to hull joint

Deck to hull joint was inspected visually no separation was sighted, the caulking appear in good condition and the toe rail appears secure with no sign of movement. No sign of leakage was sighted from the interior where inspection was possible.

## Bottom

The bottom has recently been chemically stripped, is fair and checks sound. Multiple coats of marine antifouling (VC Offshore) have been applied and it is in new condition. Random percussive sounding showed no sign of delamination or excess moisture.

## Topsides

The topsides were visually inspected, no cracks or deformation were noticed outside of normal wear for a vessel of this age. Random percussive sounding showed no sign of delamination or excess moisture, no fractures or hairline cracks were noticed.

## Transom

Some chips were noticed on the gelcoat on the lower part of the transom (see comment 1).

An abandoned through hull was located on the starboard side of the transom near the steering quadrant (see comment 2).

## Decks / trunk

The deck was visually inspected, non-skid is in good condition, no crack or damage were noticed other than normal for a vessel of this age.





The teak grab rails were found to have some play when grabbed and shaken (see comment 3).

#### Bulkheads/frames

Bulkheads were inspected where possible, appear sound and show no sign of fractures.

### Shroud load points

Chainplates, transom attachment and forward attachment appear solid and in good condition. Rod rigging is installed on this model and are in new or near new condition. Owner reports that most of the rigging has been changed recently.

### Mast (compression post, keel stepped or deck stepped)

Mast is keel stepped and the keel step appears in new condition with no sign of movement. Owner reports that a new keel step was installed in 2011.

#### Keel to hull joint

The keel to hull joint appeared in excellent condition with no sign of separation, leak, or movement. The keel bolts were not visible.

### Keel / Skeg(s)

The keel itself appeared in excellent condition. The owner reported that the keel hit an underwater rock a few years ago and was professionally repaired at the time.

#### Engine beds

Engine beds are FRP bounded to the hull.

#### Deck/trunk equipment

Stainless bow and stern rails are connected through stainless steel stations with double life line fitted with port and starboard gates as well as a stern gate, all appear secure. Mooring cleats and aluminum toe rail are fair and secure. Hatches and vent hatches appear sound and secure. A sliding acrylic companionway hatch & acrylic washboard both with teak trims, stainless companionway grab rails.

## Cockpit

A sliding acrylic companionway hatch & acrylic washboard both with teak trims, stainless

Steel companionway grab rails, locker hatches with miscellaneous sailing gear, steering pedestal all secure and in good order (comment 4).

## Stern

Inspection of the re-boarding ladder, the radar post, shore inlets, phone inlet, showed no sign of excessive wear.





# Spars/rigging

Standing rigging is inspected from deck level only, if the mast is stepped. Periodic inspections of all rigging and connections by a qualified rigger are advised. All chainplates should be removed and inspected for evidence of metal fatigue and/or corrosion if the vessel is more than ten years old. Sails are neither inventoried nor inspected and are accepted to be in a condition of normal wear relative to their age. Rod rigging is installed on this model and are in new or near new condition. Owner reports that most of the rigging has been changed recently. Owner also reports some 14 sails in good condition and about 3-4 years old.

## Mast(s)

The mast was inspected from deck level and appears in good condition. The mast is anodized aluminum fitted with three spreaders. The mast-to-boom gooseneck connection appears in good condition with no stress or hair-line cracks all fittings appear solid and secure. The owner report that a complete inspection and repair of the mast was also completed in 2011.

## Boom(s)

The anodized aluminum Boom was visually inspected and appears fair and in good condition.

## Headsail pole

A fixed length pole secured to the deck was inspected and appears fair and in good condition.

## Traveler/tracks

The mainsail track is securely mounted aft of the companionway. Headsail tracks are securely fastened to the deck.

## Headsail furler

Harken furler unit was not attached to its bow fitting at time of inspection but appears to be in working order.

## Winches

All winches, self tailing or not, spin freely with no to minimal amount of play. All were secure and appear in good working order.

## Standing rigging

All standing rigging appears in good condition.

Forestay was attached to the top of the mast but not to bow.

All shrouds are secure to turnbuckles and in turn to chainplates those are secure to bulkhead that were visually inspected and appear in good condition.

Back stay is secured to the transom and appears secure and sound. Note the backstay was only loosely attached to the stern at inspection time.



## Running rigging

Various halyard and lines appears in good or new condition and run freely.

### Blocks/Clutches

All blocks and clutches appear secure and in good condition.

## **Running gear**

#### Steering

Steering appears in good condition with no to minimal play. Quadrant appears in good condition with no to minimal play. Quadrant cable was tight and in good condition.

#### Rudders

Semi-balanced hung spade check sound with no or minimal bushing play.

#### Shaft system

Stainless shaft is in good condition with no or minimal bushing play. No sacrificial anode on the shaft.

#### Propeller

Three blade bronze folding prop is in good condition, opens and closes easily.

#### Thruster

N/A

#### Navigation lights

Navigation lights were not inspected.

## **Auxiliary engine**

#### Engine mounts

Conventional steel mount with flexible bushing bolted to FRP bed. Some rust sighted on the steel mount but appears in working order (see comment 6).

#### Engine controls

Forward and reversed control at the pedestal secure and free moving. Engine ignition includes tachometer, fuel gauge and warning light.

#### Ventilation

Not inspected.

Drip pans

Integral to FRP bed.

### Cooling system

Heat exchanger with raw water exhaust cooling, not tested, appears in working order (see comment 7).

### Exhaust system

Original manufacturer equipment.

Engine (s)

One.

## Gas/Diesel

Diesel.

### Manufacturer

Yanmar.

## Туре

Turbo.

#### Size

4 cylinder.

## H.P

44.

#### Serial No.

n/a

## Engine hours

473, as seen on the instrument panel.





#### Transmission

The transmission was visually inspected and appears in good condition; at the time of inspection it was missing a pressure cap (comment 5).

## Gear Mfg.

Yanmar.

Gear Ser. No.

n/a

### Gear Mod. No.

n/a

## Ratio

n/a

## Fuel lines(s)

Appear in working condition (comment 8).

## Fuel filters

Raycor type appears in good condition (comment 9).

## Other fuel

A galley stove is propane fuelled and supplied from two tanks stored in a locker located on starboard side and accessible from the deck (comment 10).

## Generator

None fitted.

## Ground tackle

Windlass

One electric Lewmar appears in good condition.

## Anchors

One CQR and one Bruce.

## Rode

Approximately 50ft of chain and 300 ft of rode and approximately 50ft of chain and 150 of rode.







## AC electrical system

#### Shore power

Note: Only 15amp was available from shore. Two 30amp connections in good condition are located on the port side of the stern.

### Ignition Protection

Not required in diesel fuel or engine compartment, no such equipment was sighted in the propane locker.

## AC panel

Original equipment with main breakers and accessory breakers in appears good order.

### G.F.C.I.

One GFCI outlet was located in the aft cabin on port side.

### Other Outlets

All secured but not tested.

Inverter

None sighted.







## **DC electrical system**

#### Ships power

12vdc.

## DC panel

Original equipment with main breakers and accessory breakers in good visual order.

### DC batteries

Three batteries were located under the main cabin floor (**comment 11**).

## **Electronic navigational equipment**

Electronic equipment was not tested during this survey

## Sea connection

Most through hulls that were located are marilon fittings of good quality and in apparent good working order. Some through hulls have been abandoned (**see comment 12**).



## Bilge pumps

Bilge pumps were not tested during this inspection.

#### Interior

#### General comment

The interior is a mix of fibreglass nicely complemented by mahogany veneer. The headliners, sole panels, upholstery and cabinetry are clean, sound and in good condition.

#### Galley

The galley equipment was not tested during this inspection.

#### Refrigeration

The refrigerator unit is said to have been modified as a deep freeze unit.

#### Potable water

A water tank is located under the port settee and is in good condition. Electric water pumps foot activated are at the galley sink.

### Water heater

Was not tested.

## Stove

A gimballed 3 burner propane galley stove in apparent good condition.

## Sanitation

## Heads

There are two heads one forward and one aft. The aft head is accessible from the aft cabin and/or the main cabin. The forward head is accessible from the forward cabin. Both appear in good condition (**comment 13**).

## Safety equipment

Safety equipment that is not integral to the vessel or permanently installed has not been inventoried or inspected by the surveyor. The Transport Canada "Safe Boating Guide" should be consulted for requirements specific to this vessel. Two fire extinguishers 10ABC dated March 2012 were in the boat. Emergency tiller and emergency rudder were located in the aft cabin on the port side. A number of life jackets are in the forward cabin. The vessel, being under

maintenance, not all equipment was on board. It is recommended that the safety equipment inventory meet Transport Canada regulations and if necessary be secured to the boat properly.

## TP1332E compliance markings

Transport Canada requires labels or placards be fitted in visible locations; Safety Notice Compliance, Oil Disposal and Garbage Disposal.





## Comments

Comments based on a specific authority are cited as such. Other comments are based on the opinion of the surveyor as being of "good marine practice".

## A: Issues in need of immediate attention.

Comment 2: The abandoned through hull in the transom should be plugged or a ball valve installed and capped.

Comment 5: It is recommended that a cap be installed on the transmission inspection hole.

## B: Issues that may enhance safety and or value of vessel.

\* All hoses should be double clamp as per ABYC.

\* Water pump on the engine was not accessible but should be inspected.

\* Portable heaters should be auto shut-off, should be used on a metal tray and only used when the boat is attended as per NFPA.

\* It is recommended that a mechanic performs an inspection on the auxiliary engine.

Comment 1: Some chips on the transom gel coat could be repaired to prevent moisture penetration and to enhance appearance of vessel.

Comment 3: It is recommended that the teak grab rails on port and starboard be removed, inspected, replaced if necessary and re-installed/re-bedded in a secure manner.

Comment 4: It is suggested to refinish the teak on the companionway hatch and washboard for appearance and safety.

Comment 6: It is recommended that the steel engine's bracket be wire brushed, inspected and coated with anti-rust agent.

Comment 7: It is recommended that the raw water intake strainer be secured in the engine compartment for safety reason.

Comment 8: It is recommended that fuel lines be closely inspected and replaced as necessary with fuel line meeting ABYC standards.

Comment 9: It is recommended that the Raycor type filter be filled to capacity before starting the engine to avoid air lock in the diesel system.

Comment 10: The propane tank not being used should have a cap installed to avoid possible propane leak. Vent in the propane locker should be inspected and clean as necessary. The solenoid should be inspected and replaced as necessary.

Comment 11: The battery located under the main cabin floor should be secured (usually done with

straps). The cabin sole needs to be secured. Rubber caps on the positive terminals of all batteries as safety protection should be installed as per ABYC.

Comment 12: The PVC fitting on the abandoned thru-hull in the forward cabin should be removed and the valve should be capped. Same should be done with the unused fitting under the sink in the aft cabin. No PVC should be used below the water line as per ABYC.

Comment 13: There is a crack in the fibreglass floor of the aft head, it is not a structural issue but it should be addressed to avoid possible foot injury.



## C: Offered for information or suggested as maintenance or upgrades.

None.

## Standards used

Standards used are the most current editions and may not have been in place when this vessel was built.

ABYC standards are voluntary but generally accepted throughout the marine pleasure craft industry and courts as "the" standard. Transport Canada "Construction Standards for Small Vessels, TP1332 are mandatory to the date of manufacture and states "existing pleasure craft shall comply with this standard insofar as it is reasonable and practicable to do so". TP1332 frequently refers to and is in the process of being harmonized with ABYC Standards. Compliance with "Collision Regulations" is mandatory. NFPA 302 is a voluntary standard. Standards quoted may have been paraphrased in the interest of brevity. A 100% accurate survey to the aforementioned standards would require complete disassembly of the vessel and inspection by several specialists and is not within the scope of this report.

Canada Shipping Act, CSA Small Vessel Regulations. TP127 "Ships Electrical Systems". TP10739B "International Regulations for Preventing Collisions at Sea, ed.1972 with Canadian Modifications". American Boat and Yacht Council "Standards and Technical Information Reports for Small Craft". National Fire Protection Association. NFPA302 "Fire Protection Standard for Pleasure and Commercial Motor Craft" might be referred to as necessary.

## **Certification statement**

I certify that to the best of my knowledge and belief:

The statements of fact contained in this report are true and correct. The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions and are my personal, unbiased professional analyses, opinions and conclusions. I have no present or prospective interest in the vessel that is the subject of this report and I have no personal interest or bias with respect to the parties involved. My compensation is not contingent upon reporting of a predetermined value or direction in value that favours the cause of the client, the amount of the value estimate, the attainment of a stipulate result, or the occurrence of a subsequent event. I have made a personal inspection of the vessel that is the subject of this report.

This report should be considered as an entire document. No single section is meant to be used except as part of the whole.

This report is submitted without prejudice and for the benefit of whom it may concern. This report does not constitute a warranty, either expressed or implied, nor does it warrant the future condition of the vessel. It is a statement of the condition of the vessel at the time if the survey only.

## Valuation

Valuation is primarily determined through www.yachtworld.com but may also be derived from consultation with knowledgeable boat brokers, other marine surveyor, personal experience, current listings of similar vessels in the area and available pricing sources such, Computer Boat Value Guide, N.A.D.A. Marine Appraisal Guide or the BUC Value Guide. Boat values vary considerably due to local market demands and significant premiums may be paid for fresh water vessels in exceptional condition for example. Currency conversion is done on date of survey using www.xe.com Universal Currency Converter. Valuations do not include taxes.

www.yachtworld.com Currently listed: Four such models for sale between \$112,000.00 and \$129,000.00 USD B.U.C. Value Guide: Value for a C&C 44 1986 at "above BUC" condition come at \$130,000.00 USD (\$131,440.00).

## Fair market value

"Current fair market value" is the price, in terms of currency or its equivalent that a willing seller will accept for property from a willing buyer, neither part being under undue pressure to act in the matter. The assigned value assumes that components, systems, sails or equipment not inspected during the survey are in serviceable condition commensurate with age. This valuation opinion is intended for insurance and financing purposes only and is not intended to influence the purchase or purchase price of the subject vessel. The surveyor has no interest in the vessel financial or otherwise.

It is the opinion of the surveyor that: The vessel "Xxxxx" surveyed on April xx, 2012 is in "Above average" condition and that the current fair market value of this is:

\$xxx,000.00 USD (\$xxx,000.00CDN).

#### Replacement value

"Replacement value" is the value of replacement in case of a total loss of the vessel. The current replacement value is: \$xxx,000.00 USD (\$xxx,000.00 CDN).

Prepared without prejudice.

Captain Alain Pascal Routhier Discovery Marine Surveys.com® Cpt. Licence A104769 CDN# 142164M ABYC Certified Technician ABYC member NFPA member

Seal.